



# Delaware's Natural & Working Lands

A collaborative project to support  
climate mitigation in  
wetlands, forests, and agricultural lands

Chesapeake Climate Resiliency Work Group  
December 17, 2018

# Climate Resiliency Guiding Principles

## *Capitalize on co-benefits*

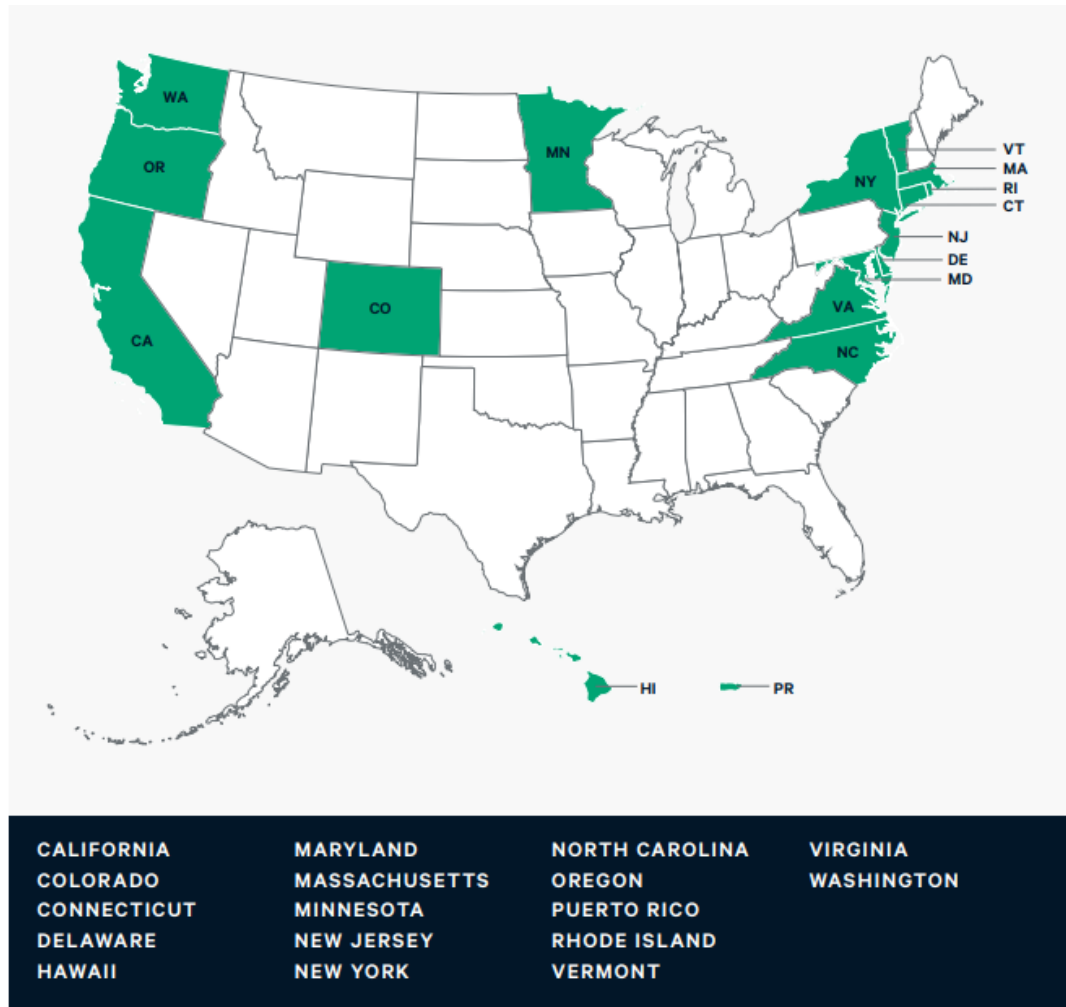
“Maximize BMP selection to increase climate or coastal resiliency, soil health, flood attenuation, habitat restoration, **carbon sequestration**, or socio-economic and quality of life benefits.”

## *Align with existing climate resiliency plans*

“Align with implementation of existing **greenhouse gas reduction strategies**; coastal/climate adaptation strategies; hazard mitigation plans...”

\*Narrative template for Phase III WIPs

# Delaware's GHG reduction goals



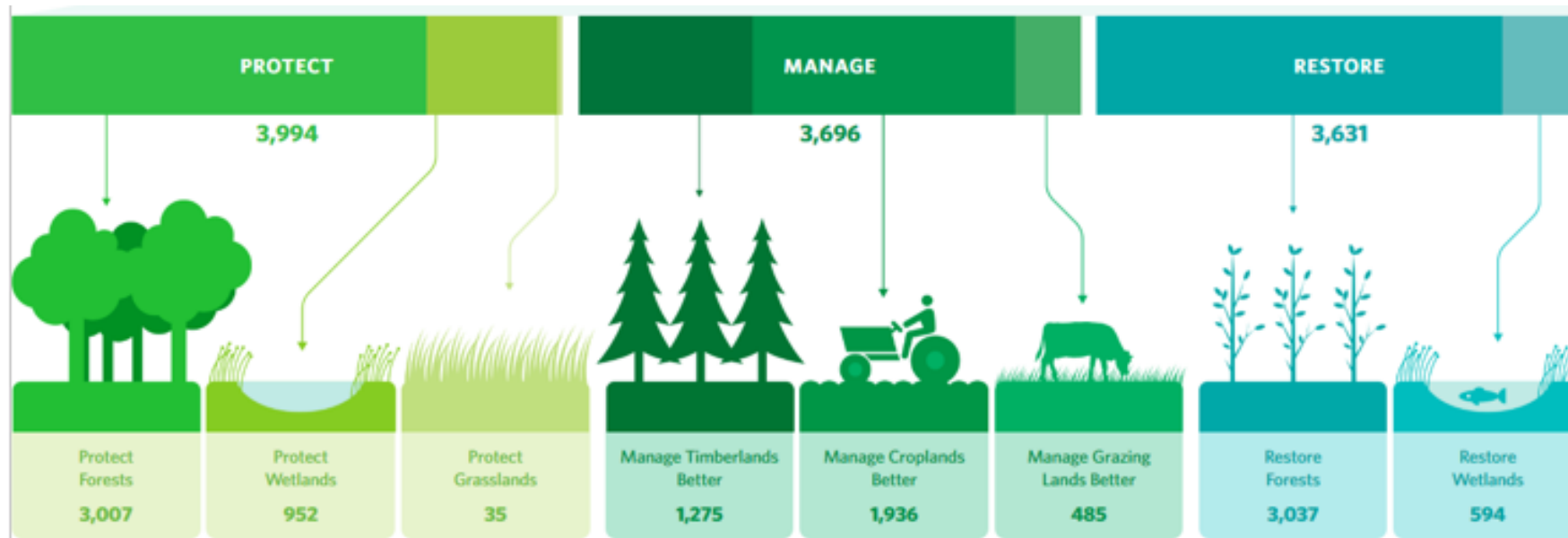
- Delaware is part of the U.S. Climate Alliance
- We are committed to the goals of the Paris Agreement to **reduce greenhouse gas emissions by 26-28% by 2025**



# Natural & Working Lands (NWL) Initiative

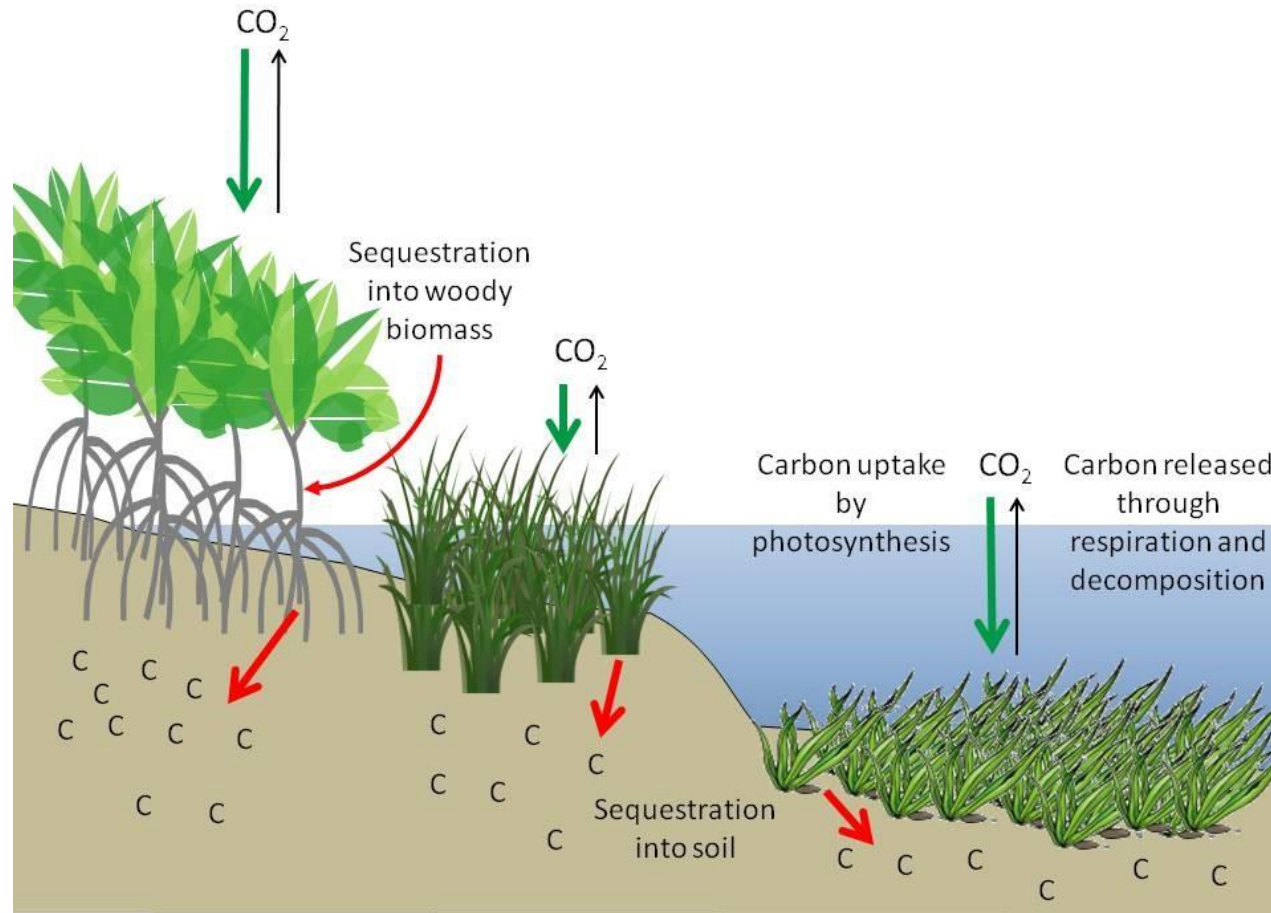
Pursue pathways that will achieve “negative emissions” – *and* provide other environmental benefits

- Tidal wetlands
- Forestry
- Agriculture



# Natural and working lands + climate

## What's the connection?



## Carbon sequestration

- Healthy plants take up carbon →

Reduces carbon dioxide emissions

## Carbon storage

- Keeping carbon stored in soils and ecosystems →

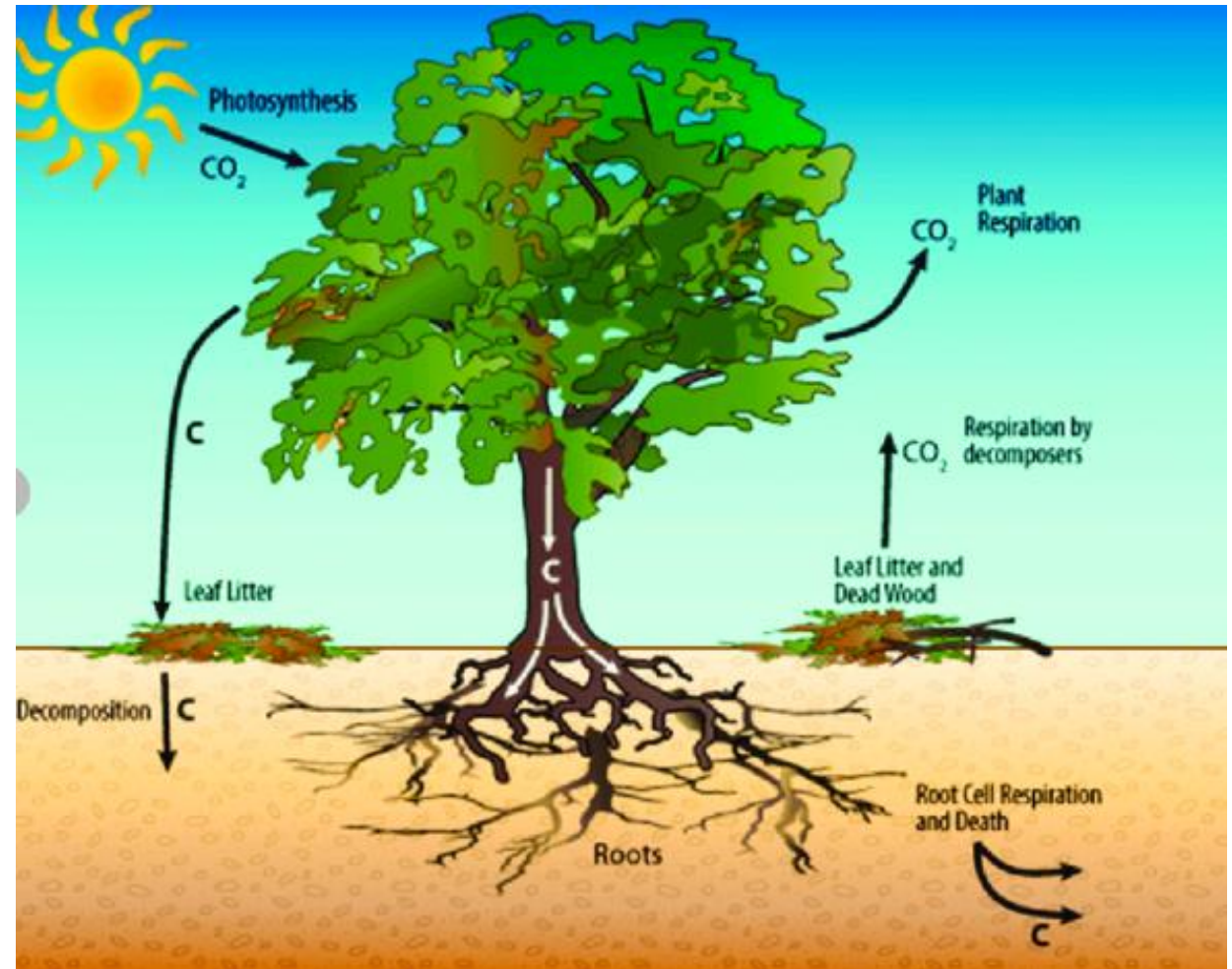
Avoids carbon emissions

# Enhancing forest carbon sinks

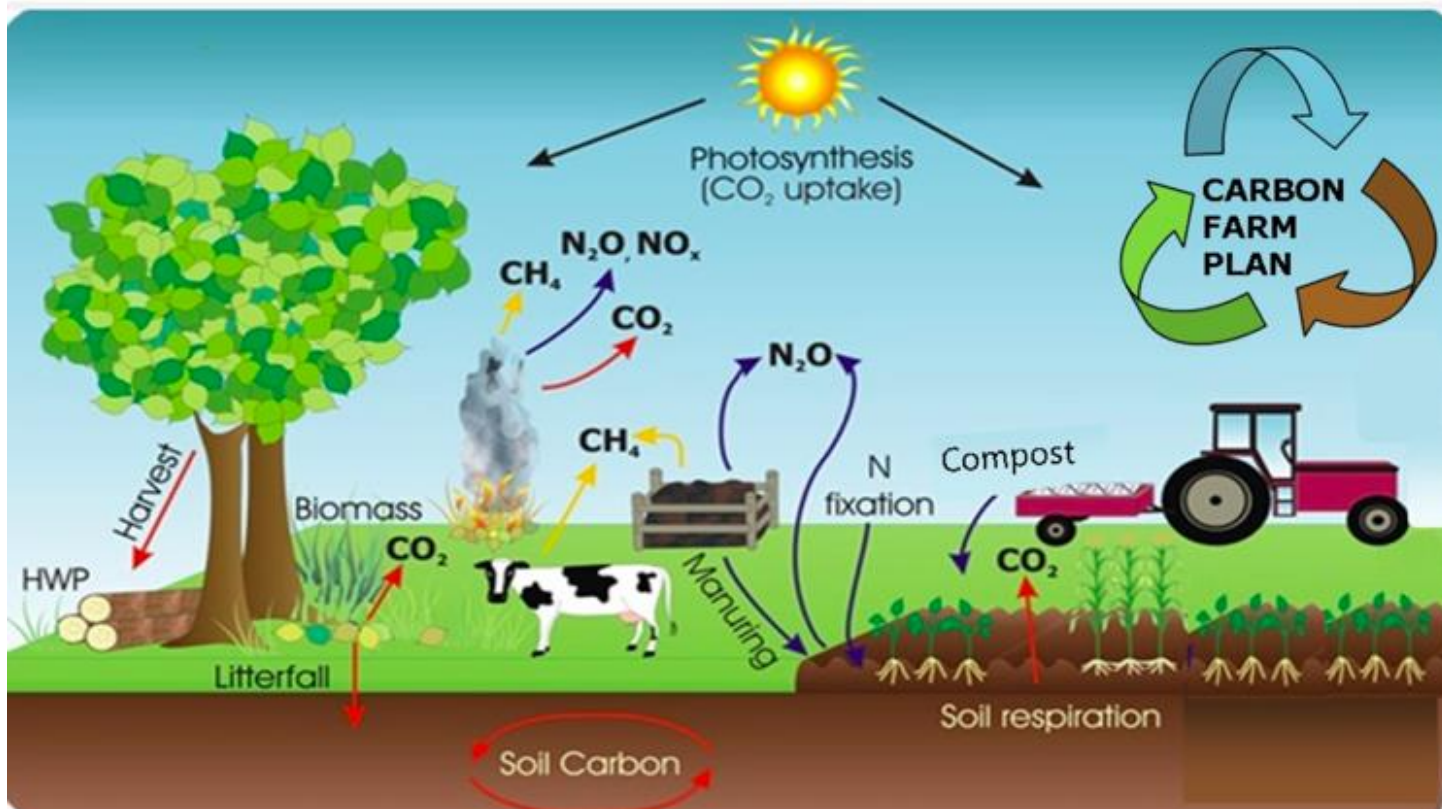
- Avoided forest conversion
- Reforestation
- Forest management

Healthy forests absorb and store more carbon – above and below ground

*Graphic credit: Valerie Martin, Technical Education Research Center (TERC)*



# Capturing carbon in agricultural lands




Conservation practices can help sequester and store carbon – a co-benefit to building healthy soils and protecting water quality

*Graphic credit: Intergovernmental Panel on Climate Change (IPCC)*





We need **metrics for estimating and tracking** how much carbon can be sequestered and stored to help meet our climate goals




United States Department of Agriculture

Office of the Chief Economist  
Climate Change Program Office  
Technical Bulletin 1939  
July 2014

### Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory





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## Carbon

**Tools for carbon inventory, management, and reporting**

Accurate estimates of carbon in forests are crucial for forest carbon management, carbon credit trading, national reporting of greenhouse gas inventories to the United Nations Framework Convention for Climate Change, calculating estimates for the Montreal Process criteria and indicators for sustainable forest management, and registering forest-related activities for state and regional greenhouse gas registries and programs.

Our scientists have contributed to developing a toolbox full of basic calculation tools to help quantify forest carbon for planning or reporting. The following tools are currently available:

- PRESTO: an online tool to estimate carbon in harvested wood products
- Measurement guidelines for the sequestration of forest carbon
- Field Measurements for Forest Carbon Monitoring: A Landscape-scale Approach
- Standard tables of forest ecosystem and harvested wood carbon
- Carbon OnLine Estimator (COLE)
- FORCARB2: An updated version of the U.S. Forest Carbon Budget Model
- U.S. Forest Carbon Calculation Tool (CCT)
- Forest Vegetation Simulator (FVS)
- CVal
- i-Tree
- CarbonPlus Calculator: A locally customizable emissions calculator for individuals and businesses

**Carbon**

- Carbon Home
- Literature resources for carbon inventories
- Tools for carbon inventory, management, and reporting
- Tools Workshop
- Summaries
- Webcasts
- Carbon Factoids

**Carbon Tools**

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# Questions?

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